

Sinske HATTORI*: Notes on *Frullania* species of Iriomote and
Ishigaki Islands, the Ryukyu Archipelago**

服部新佐*: 西表島, 石垣島産ヤスデゴケ属ノート

Dr. M. Mizutani and Dr. I. Yoshimura collected bryophytes and lichens on Iriomote and Ishigaki Islands (Ryukyu Archipelago), the southernmost part of Japan, on January 21-28, 1975. On these islands, particularly Iriomote Island, larger bryophytes and lichens are very scarce. Most frequently seen are small epiphytic hepatics (various Lejeuneaceae, *Radula* spp.) and crustose lichens which grow firmly attached on the bark of trees. *Frullania gaudichaudii*, which has been reported from Iriomote Island, is the only species that usually forms conspicuous mats there. However, I am uncertain, in view of the general nature of the bryophyte flora, whether this species was really collected on Iriomote Island. According to Dr. Mizutani, few *Frullania* species occur on either Iriomote or Ishigaki Island. He found only a limited quantity of the following five species there. The reasons why bryophytes are poorly represented on these islands may include the absence of high mountains.

To economize space, collection dates and the collector's names have been omitted from the following list. The voucher specimens are deposited in the Hattori Botanical Laboratory (NICH).

1) *Frullania amplicrania* Steph.

Iriomote I., Sonai, 1-10 m, no. 5210 (tree trunk).

2) *Frullania aoshimensis* Horik.

Ishigaki I., Mt. Omoto, evergreen forest, 100-500 m, no. 5121, 5122 (tree trunks). Iriomote I., between Funatsuki-ba and Mariudo-no-taki, along Ura-uchi-gawa, evergreen forest, 1-70 m, no. 5354, 5355 (tree trunks); Mt. Goza, evergreen forest, 1-400 m, no. 5493 (tree trunk).

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3) *Frullania densiloba* Evs.

Iriomote I., Mt. Goza, evergreen forest, 300 m, no. 5506/a (tree trunk; with *F. iriomotensis*).

4) *Frullania* (*Diastaloba*) *iriomotensis* Hatt., sp. nov.

Planta minuta, pallide flavo-olivacea vel -brunnea, corticola, irregulariter ramosa, ramis caulem simillimis; folia minuta, \pm oblique patula, late ovata, apice acuto, fere breviter spinifero, margine saepe sparsim angulati-denticulato, lobulis clavatis, stylis filiformibus; amphigastria caulina anguste oblonga, caule parum latiora vel fere aequilata, ca. 3/5-bifida, laciniis lanceolatis, superne filiformibus. Folia et amphigastria ramalia ipsa caulem simillima.

Plants minute, pale yellowish-green or yellow-brown to brownish when dry; stems ca. 1 cm long, 0.08–0.1 mm wide, olive-brown to brown, ca. 0.6 mm wide with leaves, irregularly branched, branches sparse, similar in size to stem when well-developed, secondary branches usually few. Lobes of stem-leaves \pm obliquely spreading, dorsally arched and extending slightly beyond the opposite side of the stem, somewhat imbricate, or rarely \pm remote, concave, widely ovate, ca. 0.4 mm long and 0.32–0.35 mm wide, apices narrow, incurved, shortly spinose to acute, dorsal margins arched toward subtruncate

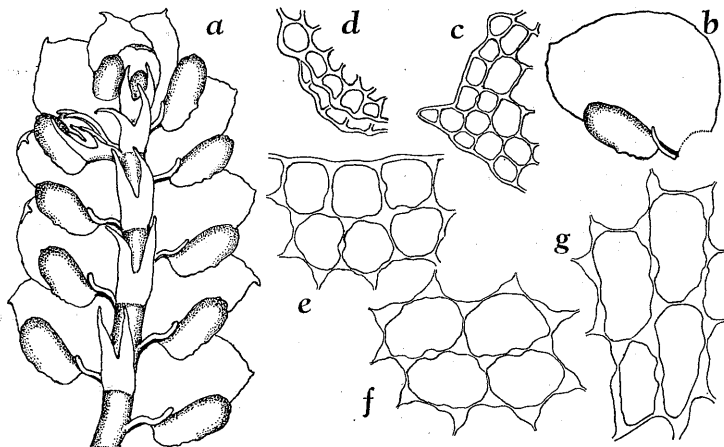


Fig. 1. *Frullania iriomotensis* Hatt. a: Apical portion of stem, ventral view, $\times 57$. b: Stem-leaf, $\times 57$. c: Lobe-apex of stem-leaf, $\times 175$. d: Distal portion of lobule-mouth of stem-leaf, showing "proboscis" (upper, protruding cell), $\times 200$. e-g: Cells of lobe of stem-leaf. e from margin; f from middle; g from base, $\times 455$. Drawn from type.

bases, ventral margins nearly straight; cavities of marginal cells $12 \times 12 \mu$, of median cells $20-25 \times 17-20 \mu$, of basal cells $25-27 \times 12-17 \mu$, walls thin, trigones medium-sized, sometimes larger, triangular to subnodulose, the intermediate often present, smaller than trigones, \pm nodulose, cavities pale olive to olive-ocher, walls pale olive to brown-ocher; lobules remote from the stem and spreading at angles of $50-70^\circ$, clavate, ca. 0.18 mm long, $1/2$ as wide as long, nearly smooth but often with 1-3 low, subconic apical projections, proboscis present at middle of distal sides, mouths arched and long, each with 1-3 blunt angles on upper margin; stylus filiform, ca. 6 cells long. Stem-underleaves flat, appressed, transversely inserted, as wide as or slightly wider than the stem, 0.17-0.22 mm long and 0.08-0.12 mm wide, ca. $2/3$ -bifid, sinus acute or nearly so, narrow, lobes lanceolate with filiform apical portions, discs as long as wide (or 4-6 cells long and 6-8 cells wide); rhizoid-initial area poorly developed near base, rhizoids rarely seen, hyaline or nearly so, large and long (to 0.25 mm), several (4-7) at each initial area, apices often furcate or shortly branched. Branch-leaves and underleaves similar to those of stem.

Ryukyu Islands: Iriomote I., Mt. Goza, evergreen forest, 300 m (on tree trunk; with *F. densiloba*, *Lopholejeunea* 2 spp., *Archilejeunea* sp., and *Radula* sp.—all in few quantities on bark of trees), Jan. 28, 1975, M. Mizutani & I. Yoshimura 5506/a—Type (NICH).

Distr.: Presumably endemic (known only from the type collection).

Frullania iriomotensis belongs to subgen. *Diastaloba*, sect. *Lucidae*, and is easily distinguished from other members of the section by (1) the long and narrow underleaves which are ca. $2/3$ -bifid and which have lanceolate lobes ending in a filiform apex; (2) the short spinose or acute apex and remotely angular-denticulate upper margin of the leaf-lobe; (3) the leaf-lobule which is provided with a proboscis and wide arched mouth whose upper margin shows 1-3 blunt angles; (4) the similarity of branch-leaves and branch-underleaves to those of the stem; and (5) the minute size of the plants which are pale yellowish green or brown when dry.

5) *Frullania brittoniae* subsp. *truncatifolia* (St.) Schust. et Hatt.

Iriomote I., Sonai, 1-10 m, no. 5211 (tree trunk).

Addition: *Frullania ericoides* (Nees) Mont. was collected by Dr. Z. Iwatsuki on Ishigaki Island: Nakatake Shrine, North of Miyara, 50 m, Dec. 26, 1976, no. 2621 (tree trunk).

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西表島（沖縄県）は熱帯系の面白い蘚苔類が豊富に生育しているように思われる。所が長旅を苦勞して訪れた人々はその蘚苔類相、特に大一中形のものが意外に貧弱なのでガッカリするのが常である。水谷正美、吉村庸両博士の採集行もそうであった。特に水谷氏はごく小さい苔類まで“なめる”ように採集して、そのうちヤスデゴケ類を私に供された。どの包みも小形の種がほんの僅かであって、やっと上記の5種が見つかった。沖縄や奄美大島によく見られる中一大形種が全く無いのは意外である。イリオモテヤスデゴケ (sect. *Lucidae* に属する小形の新種 *Frullania iriomotensis*) が唯一の収穫で、同節の他種から腹葉が細長く深2裂すること、その他大分変わった種である。他の4種は日本南部によく見かけるもので台湾迄南下する種もある。何故西表や石垣島の蘚苔類がこんなに貧弱か一寸理解に苦しむが、低高度の小島であることが強く影響していると考えられる。そのため特に着生蘚苔類にとっては湿度（＝水分）条件が著しく不利である。

□Hedberg, Inga (ed.): **Parasites as plant taxonomists**. Proceedings of a symposium held in Uppsala August 25-27, 1978 in commemoration of Carolus Linnaeus, Carl Peter Thunberg, Elias Fries. Acta Universitatis Upsaliensis. Symbolae Botanicae Upsalienses 22: 4. 221 pp. 1979. Uppsala. (Distributor: Almqvist & Wiksell International, Stockholm-New York). 開催地ウプサラ大学の Olov Hedberg 教授の序文にもあるように、Linnaeus 死後200年、Thunberg 150年、Elias Fries 100年を記念して、1978年に行われた式典の記念講演と、同時に行われた国際シンポジウムのすべての講演を印刷したものであり、その組織運営に際し活躍された夫人の Inga Hedberg 博士の編集したものである。ウプサラ大学の生んだ偉大な三人の植物学者を偲んで、同大学の B. Jonsell 博士が Linnaeus について、木村陽二郎が日本とスウェーデンの植物学の発達を比較しつつ、Thunberg の功績について、ウプサラ大学の昆虫研究室の L. Hedström 博士が昆虫学者としての Thunberg について、また同大学植物分類学研究室の J. A. Nannfeldt 博士が、Elias Fries の菌学への貢献についてなした記念講演が巻頭にある。

32ページ以下はシンポジウム「植物分類学者としての寄生物」の講演18篇からなる。寄生物は寄主の植物の種を誤りなく見定めてとりつくから植物分類学者というわけで、顕花植物学者、昆虫学者、菌学者が一堂に会するという着想はめあたらしく、各方面の学者が分類学、生態学の立場から論じあい、寄主の物質、寄主と寄生物との相互進化、虫こぶ、昆虫の食草問題、銹菌の種と寄主の種の関連などが話題となった。

(木村陽二郎)